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Evaluation of the Sports Industry Policy in China During the 2010-2024 Period

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KEYWORDS

*Sports Industry Policy,
Topic Model,
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Policy Text*

ABSTRACT

The sports industry policies in China are essential instruments for guiding the sector's development, promoting quality improvement, and bolstering China's position as a sports powerhouse. This study comprehensively examines provincial-level sports policy documents from 2010 to 2024, utilizing the Latent Dirichlet Allocation (LDA) model and social network analysis to investigate policy evolution and thematic shifts over time. Despite significant progress, the sports industry faces structural imbalances, limited innovation capacity, and the need for tailored policy responses. Methodologically, this research applies advanced text analysis techniques to identify core themes and developmental trajectories in policy content, analyzing data from 103 official documents across various policy stages. The results reveal that: (1) policy themes are decreasing in number but are increasingly specialized and focused; (2) policy emphasis has shifted from broad coordination to precise, field-specific improvements, aligning with evolving economic and social needs; (3) policy evolution follows multiple trajectories, incorporating aspects such as industry planning, financial incentives, market expansion, service optimization, and collaborative innovation. These insights contribute to the discourse on high-quality development in China's sports industry and highlight strategic policy recommendations, such as refining planning directions, deepening policy content, and standardizing industry practices.

1. Introduction

Since the inception of China's sports industry in the mid-1990s to the 2020 release of the "Guidelines on Expanding Investment in Strategic Emerging Industries to Cultivate New Growth Points and Growth Poles"—which identified sports as a strategic emerging industry and a new economic driver—the sector has seen substantial growth and development. Over this period, sports industry policies have progressively evolved, shaping a structured policy system [1]. The issuance of the "State Council's Opinions

on Accelerating the Development of the Sports Industry and Promoting Sports Consumption" in 2014 was particularly transformative, sparking an unprecedented surge in policy creation at both national and regional levels, drawing considerable academic attention [2]. Developing the sports industry aligns not only with market economic principles but also serves as a strategic initiative to deepen sports reforms and advance modernization with Chinese characteristics [3].

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With China's economy transitioning from high-speed to medium-high-speed growth marked by structural optimization, the sports industry, as a critical emerging sector, faces dynamic shifts in development conditions [4]. In 2022, the national sports industry reached a total value of 3.3 trillion yuan, achieving a 5.9% year-on-year increase and comprising 2.7% of the national economy—indicating sustained growth. However, the industry also faces significant challenges, including regional development imbalances, a narrow industrial structure, and limited innovation capacity [5]. These challenges underscore the need for a strategic policy shift away from the traditional extensive development model historically promoted in sports industry policy [6].

As a pivotal tool in guiding industrial growth and supporting China's vision of becoming a global sports leader, sports industry policy plays an essential role in addressing market gaps, optimizing resource allocation, and driving industrial upgrading [7]. To maximize the market-driven, competition-enhancing functions of sports industry policy under this new development paradigm, it is crucial to evaluate policy effectiveness comprehensively [8]. Whereas, traditional policy analysis approaches often fail to capture the dynamic requirements and underlying logic of current policies, lacking the precision needed to identify policy hotspots and evolving trends [9]. This analytical gap can hamper the efficiency of policy formulation and implementation, making the exploration of innovative policy analysis methods an urgent priority for scholars.

Text analysis methods, which employ linguistic techniques to reveal underlying meanings within policy texts, serve as valuable tools in the social sciences for policy analysis. Such methods allow researchers to discern policy orientations and strategic directions within a field, enabling macro-level interpretation and prediction [10,11]. Given that policy formulation and implementation processes often involve implicit or partially visible elements, understanding the true intent and operational mechanisms of policies is a central objective for policy researchers. Policy texts, as formal, comprehensive, and accessible records of government actions, document policy adjustments to internal and external pressures and reflect changes in social structures and organizations within the industry [12,13]. They provide critical insights into policy actors, target audiences, objectives, and methods, offering a structured perspective for examining the development of policy frameworks.

Analyzing policy texts within their historical and social contexts using varied research methods provides a pathway to uncover the discursive meanings that offer insights into social structures and development trajectories [14,15]. Essential questions regarding the theoretical basis of sports industry policy effectiveness, characteristics of effective policies, and strategies to enhance policy impact are critical for understanding the transformation of sports industry

policy and promoting high-quality development within China's sports industry [16-18]. Answering these questions has far-reaching practical implications for the ongoing shift in China's sports industry policy.

Current theoretical and empirical studies on public-domain policy texts have made headway, with existing research on sports industry policy primarily focused on areas such as policy evolution, policy evaluation, policy tools, and international comparisons. However, two major limitations remain: (1) the effectiveness of sports industry policy is highly contingent upon specific situational factors, yet current literature insufficiently addresses these contextual influences; (2) proposed strategies for optimizing industry policy are frequently grounded in macroeconomic development trends or subjective assumptions, often lacking empirical data and in-depth analysis of the sports industry's unique developmental realities. This study introduces an innovative approach by applying the Latent Dirichlet Allocation (LDA) model alongside social network analysis techniques to extend sports industry policy research from a macro to a micro-level, focusing on temporal thematic evolution and internal logic. This approach aims to contribute valuable insights to support the high-quality development of the sports industry.

2. Methodology

2.1. Study method

2.1.1. LDA Model

The Latent Dirichlet Allocation (LDA) model is a probabilistic topic modeling algorithm used in unsupervised machine learning for text mining, designed to identify latent thematic information within large-scale document collections or corpora. In the LDA model algorithm, each word in a document is generated by selecting a particular topic with a certain probability and then choosing a word from the vocabulary associated with that topic, also with a given probability. This method assumes that each word in a text is drawn from a latent topic [19]. For each document in a corpus, LDA defines the following generative process: first, a topic is sampled from the topic distribution for that document; second, a word is selected from the word distribution associated with the chosen topic; finally, this process is repeated for every word in the document. The joint probability distribution formula of the LDA model describes the probabilistic relationship among documents, topics, and words in detail. The formula for calculating this probability is as follows:

$$P(d, w, z, \theta, \varphi) = P(\theta | \alpha) \times \prod (P(z | \theta) \times P(w | z, \varphi)) \times \prod (P(\varphi | \beta)) \quad (1)$$

In this formula, each word w in document d is associated with a topic z ; θ represents the distribution of topics within the document, while ϕ denotes the distribution of words within each topic. The parameters α and β are hyperparameters: $P(\theta|\alpha)$ is the prior probability of the topic distribution within the document, influencing the way topics are distributed across the document; $P(z|\theta)$ describes the probability of a word belonging to a particular topic within the given document; and $P(w|z,\phi)$ represents the probability of a word occurring within a given topic. Furthermore, $P(\phi|\beta)$ is the prior probability of the word distribution within the topic, controlling how words are distributed within each topic. The product of these probabilities constitutes the probability density function of the words in document d .

2.1.2. Social Network Analysis

Social Network Analysis (SNA) is a sociological research method that examines relationships and structures among individuals, allowing for an in-depth analysis of network structural characteristics, such as density, centrality, and clustering [20]. In policy network analysis, SNA uses metrics like node degree and connectivity, along with co-occurrence network, to visually represent the degree of linear association between policy themes. The Pointwise Mutual Information (PMI) index is employed to quantify the association strength between thematic keywords at different stages [21]. A higher PMI value indicates a stronger association between terms. The formula for calculating PMI is as follows:

$$PMI(W_1 = w_1, W_2 = w_2) = \log_2 \frac{P(w_1, w_2)}{P(w_1)P(w_2)} \quad (2)$$

2.2. Study data

The "General Office of the State Council's Opinions on Accelerating the Development of the Sports Industry", issued in March 2010, marked a pivotal moment for guiding and shaping the development of China's sports industry. This study focuses on the period from 2010 to 2024, to examine the evolution of sports industry policy. Data sources include official websites of provincial (autonomous regions, municipalities) sports bureaus and local government transparency portals. By using "sports indus-

try" as a search term, a total of 103 policy documents were collected from 31 provincial-level governments (excluding Hong Kong, Macau, and Taiwan). These documents encompass implementation opinions, development plans, action plans, measures, and schemes. Based on prior studies, the progression of sports industry policy is typically marked by the release of significant policy milestones. This research highlights three critical time points—2010, 2014, and 2019—to provide a detailed review and analysis of the staged development characteristics of sports industry policy in China. Table 1 illustrates the timeline of sports industry policy releases from 2010 to 2024.

(1) Emerging and promotion period (2010–2014). In this initial phase of sports industry policy development, although the number of policy documents was limited, the policies demonstrated a distinct pioneering quality. Between 2010 and 2012, various provinces began responding to the emerging demands within the sports industry by implementing supportive policies. During this period, the trend in policy issuance was marked by fluctuations, reaching a modest peak. However, in 2013, there was a sharp decline in policy releases, influenced by constraints in the sports industry's output value, influence, and general level of public and governmental interest.

(2) Rapid development period (2015–2019). As residents' living standards and health awareness rose, demand for sports consumption surged, propelling the sports industry into a rapid growth phase. In response to the "Opinions on Accelerating the Development of the Sports Industry and Promoting Sports Consumption" issued by the General Office of the State Council, all 31 provinces introduced policies aimed at promoting sports consumption. Regions such as Shanghai, Shandong, and Zhejiang prioritized the sports industry's role in advancing a healthy China and enhancing public welfare. Emphasis was placed on supply-side structural reforms within the sports industry, which included exploring and expanding sports consumption potential as a means of generating new economic growth drivers.

(3) Mature and slowing period (2020–2024). At the close of 2019, the COVID-19 pandemic dealt an unprecedented blow to the sports industry, affecting multiple segments of the industry chain. Despite these challenges, the sector witnessed a modest peak in policy releases, as provinces remained optimistic about the long-term develop-

Table 1| Quantitative statistics of sports industry policies at different times

Year	2010	2011	2012	2013	2014	2015	2016	2017
Number	3	9	8	0	1	31	10	4
Year	2018	2019	2020	2021	2022	2023	2024	
Number	3	0	9	12	6	1	6	

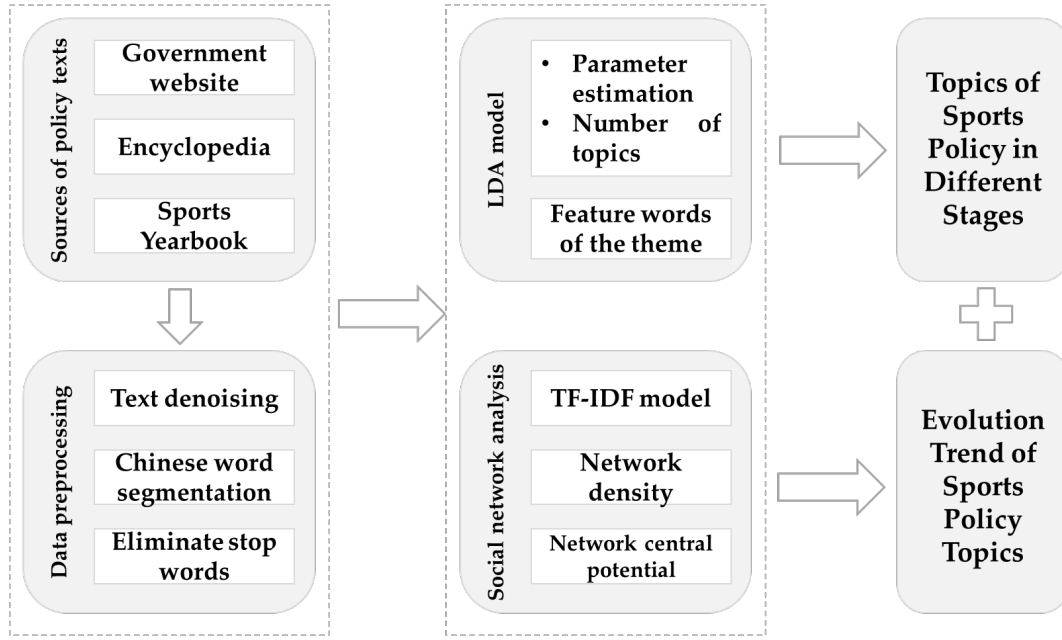


Figure 1 | The technical flowchart of this study

ment prospects of the sports industry. Recognizing new opportunities, regional governments focused on fostering new scenarios and growth drivers aimed at advancing high-quality industry development. As the pandemic's impact began to subside, the sports industry entered a new development phase, regaining momentum and reinforcing its economic role within the national framework.

2.3. Technical approach

This study utilizes machine learning techniques to conduct word segmentation, topic mining, and evolutionary analysis on 103 sports industry policy documents from three defined stages. The technical approach is summarized in the Figure 1.

First, text data preprocessing. Using the Jieba segmentation tool (<https://github.com/fxsjy/jieba>), Chinese-language sports industry policy texts are segmented into individual words. High-frequency words with low semantic relevance—such as proper names, locations, function words, and other terms irrelevant to this analysis—are designated as stop words and removed to enhance analytical precision.

Second, policy topic hotspot mining. We perform topic mining to identify key policy topics. The candidate topic range is set between 2 and 20 topics, with perplexity values calculated for each number of topics. To determine the optimal topic count, an "elbow plot" is generated, displaying changes in perplexity values across the range of topic counts. The optimal number of topics, K , is selected based on the point where the perplexity rate plateaus. A topic clustering model is then constructed, allowing the machine learning algorithm to identify core feature words associated with each topic under the optimal topic count.

Third, policy hotspot evolution analysis. Using the Term Frequency-Inverse Document Frequency (TF-IDF) model, the association strength between thematic keywords at each stage is calculated, generating a co-occurrence network. By applying social network analysis, the network's density and centrality are measured at each stage, enabling a comprehensive examination of the evolutionary trends and underlying logic within sports industry policy themes over time.

3. Results Analysis

3.1. Hotspot analysis of sports industry policies

By calculating the LDA topic perplexity for sports industry policy texts at each stage, the optimal number of topics was determined using the perplexity "elbow" criterion. Specifically, 13 topics were identified for the emerging and promotion period, 8 topics for the rapid development period, and 10 topics for the mature and slowing period.

3.1.1. Emerging and promotion period

The issuance of the first national-level guiding opinions on the sports industry marked an era of significant growth and enthusiasm. During this Emerging and Promotion Period, policy directions were exploratory, focusing on clear guidance across key areas (Figure 2).

(1) Scaling and standardizing the sports industry. This theme is synthesized from topics 1, 7, and 10. The "General Office of the State Council's Opinions on Accelerating the Development of the Sports Industry (2010)" highlighted goals to expand industry scale, increase GDP contribution, and establish a regulatory framework supporting sus-

tainable and orderly growth. These priorities reveal early policy intentions to balance industry expansion with regulatory measures fostering healthy, green development.

(2) Supporting enterprises, cultivating ecosystems, and promoting industry growth. This theme is derived from topics 2, 8, and 11. Policies such as the “State Council’s Opinions on Encouraging and Guiding Private Investment (2010)” and the “General Administration of Sport’s Implementation Opinions on Encouraging and Guiding Private Investment in the Sports Industry (2012)” underscored the importance of engaging multiple investment players. Examples include Guangdong’s development of the “Guangzhou Marathon” as a regional brand event to support associated industries, and Zhejiang’s focus on establishing sports brands like the “Qiandao Lake International Swimming Festival,” aimed at fostering diverse sports-driven economic growth.

(3) Expanding the sports market and developing outdoor resources. This theme consolidates topics 3 and 6. This theme focuses on “actively exploring” new growth paths through diversified development models that enhance the sports industry’s reach. Provinces like Sichuan, Yunnan, and Guizhou leveraged natural resources to stimulate the sports market. Sichuan and Guizhou, for instance, utilized geological parks for sports tourism projects like the “Ultra Trail Mt Siguniang” and “Ziyun Getu River Rock Climbing Event,” incorporating hiking, rock climbing, and rafting. Similarly, Yunnan’s “Gaoligong Mountain Hiking Adventure” and “Nujiang Kayak Wild Water Open” illustrate sports-tourism integration efforts aimed at economic uplift.

(4) Transforming government functions and improving sports service facilities. This theme is synthesized from topics 4, 5, and 13. Provincial policies encouraged streamlining government functions and procedures, boosting social engagement, and promoting public fitness initiatives. These efforts laid foundational support for cultivating future sports consumers, establishing public enthusiasm for sports, and promoting the sports industry’s growth.

(5) Sports Talent Development and Industry-Academia-Research Integration. This theme consolidates topics 9 and 12. Sports talent is essential for driving industry development. The “National Sports Talent Development Plan (2010–2020)”, issued by the Personnel Department of the General Administration of Sport, underscores the sector’s talent needs. Beijing’s “Sports Industry Investment Fund” aimed to attract private capital, while Jiangsu’s collaboration with the Hefei Institute of Physical Science resulted in the “Jiangsu Engineering Center for Sports and Health Equipment”, which promotes high-tech advancements in sports and fitness. These initiatives reflect a push towards integrating academic research and technological innovation into both competitive and public sports sectors.

3.1.2. Rapid development period

Amid nationwide policy support, economic transformation, the rise of “Internet+” initiatives, and deepening globalization, China’s sports industry experienced rapid growth, becoming a key driver of economic expansion and a pillar industry. The sports industry’s elevated strategic importance is reflected in the surge of policy initiatives, marking this period as one of rapid development, with four primary thematic focuses (Figure 3).

(1) Sports professionalization reform and outdoor sports product refinement. This theme consolidates topics 1, 3, and 5. Key regions, including Shandong, Shanghai, and Guangdong, prioritized sports professionalization reforms in policy. For instance, Guangdong’s “13th Five-Year Plan for Sports Industry Development (2017)” emphasized standardization, marketization, and internationalization in professional leagues and clubs. The Guangdong Basketball League (GDBA), by adopting a commercialized operational model, greatly enhanced its brand influence and commercial value through media integration, setting an example for professionalization reforms in sports. Concurrently, outdoor sports products progressed from “resource development” to refined, technology-enhanced products that capitalize on regional strengths, fostering sustainable growth engines for the industry.

(2) Financial and tax incentives, optimization of business environment. This theme consolidates topics 2, 4, and 8. The “13th Five-Year Plan for Sports Industry Development (2016)” outlined financial and fiscal support mechanisms, including tax benefits, incentives for private capital, and administrative reforms aimed at streamlining regulatory processes. For instance, Henan Province established a special fund exceeding 100 million yuan, which supported over 500 sports enterprises. Fujian’s measures for promoting high-quality sports industry development included a reduced 15% corporate tax rate for recognized high-tech sports enterprises. Beijing streamlined over 30 administrative procedures, spurring a 20% annual increase in sports enterprise registrations from 2015 to 2019.

(3) Cross-sector integration and sports service system development. This theme consolidates topics 6 and 9. Provinces implemented cross-sector integration models to enhance sports-related services. In sports and education, Zhejiang’s Taizhou City developed the “1+9” city-county linkage system, supporting youth development and sports talent cultivation. In sports-tourism, Hunan incorporated sports culture into scenic attractions, creating events like the “Hunan Dragon Boat Festival” to leverage its unique cultural assets. Additionally, in sports-health integration, Xuzhou in Jiangsu Province expanded sports services into community health through the Yunlong District Sports and Health Integration Service Center, thereby strengthening community access to sports facilities.

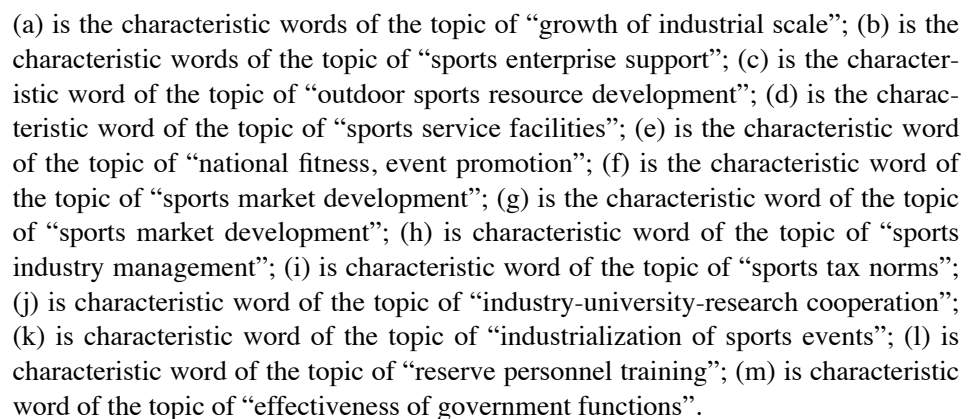


Figure 2 | The topics and characteristic words of sports industry policy in the emerging and promotion period



Figure 3 | The topics and characteristic words of sports industry policy in the rapid development period

(4) Industry transformation, upgrading, and collaborative mechanism innovation. This theme consolidates topics 7 and 10. The “13th Five-Year Plan for Sports Industry Development (2016)” advocated for shifting to a coordinated development model, optimizing the sports industry structure, and promoting regional collaboration. Documents like the “Beijing-Tianjin-Hebei Sports Industry Collaborative Development Plan” emphasized resource-sharing across regions, which optimizes and integrates the sports industry supply chain, offering greater expansion opportunities for sports enterprises and fostering interconnected regional growth.

3.1.3. Maturity and slowdown period

Despite the substantial impact of the COVID-19 pandemic on the sports industry, the foundational elements of China’s sports industry have remained resilient, allowing for steady development even amid global uncertainties. During this maturity and slowdown phase, policy efforts have emphasized support for industry recovery, stabilization, and adaptation to emerging trends. This phase is defined by three primary thematic focuses (Figure 4).

(1) Financial support for sports enterprises, market incentives, and enhanced supervision. This theme consolidates topics 1 and 5. As pandemic-related policies evolved, restoring market confidence and facilitating steady recovery became priorities. In response, regions implemented targeted financial support policies. For instance, Beijing launched procurement policies aimed at small and medium-sized sports enterprises, while Shanghai offered rent reductions and subsidies to alleviate financial pressures. The focus in market management has shifted from previous priorities of “expansion” and “reform” to “incentivizing” market entities and “supervising” accountable parties, thereby fostering a balanced approach to market stabilization and oversight.

(2) High-quality collaborative development and innovation in sports services. This theme consolidates topics 3, 4, and 8. Policies in this phase aim to support high-quality development within the sports industry and strengthen regional cooperation. Initiatives such as the Chengdu-Chongqing Economic Circle and the Guangdong-Hong Kong-Macau Greater Bay Area have laid the groundwork for optimizing industry clusters and streamlining supply chains, thereby enhancing competitiveness across regions. In sports service innovation, the “14th Five-Year Plan for the Development of Sports Industry in Shanghai (2021)” encourages enterprises to integrate technology, thereby upgrading sports consumption offerings. For instance, smart fitness solutions and online sports training programs are now emerging, meeting public demand for diverse, accessible, and tailored sports experiences.

(3) National fitness service platform development and outdoor sports resource integration. This theme consoli-

dates topics 2, 6, and 7. Expanding national fitness services to address “where to exercise” and “how to exercise” remains critical to achieving public health goals and promoting a high-quality lifestyle. Establishing a robust public fitness service system is fundamental to advancing the national health agenda and building a “healthy China” and a “strong sports nation”. In terms of outdoor sports, the “Action Plan for Promoting the Construction and Service Enhancement of Outdoor Sports Facilities (2023–2025)”, represents a significant step toward fostering high-quality development in China’s outdoor sports sector. This action plan marks the start of a new era focused on enhancing outdoor sports infrastructure and services.

3.2. Social network analysis and staged evolution analysis

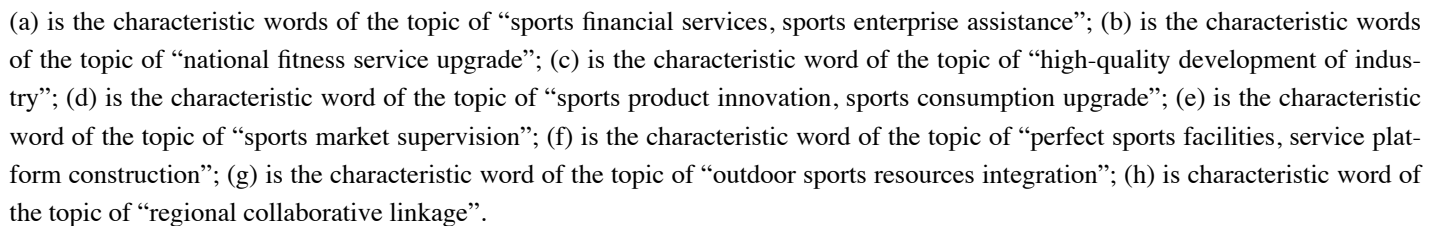
3.2.1. Social network analysis of sports industry policies

Using the statistical results of the LDA model, synonymous terms were integrated, and the top 30 semantically distinct theme keywords were identified for each policy stage. Formula (2) was applied to calculate the occurrence probabilities of each theme keyword across stages, constructing co-occurrence matrices (30×30) for each stage to form a social network visualization. The ROSTCM6 software (<https://gitcode.com/open-source-toolkit/767d7>) was then used to calculate network density and network centralization for each period (Figure 5). Network density reflects the degree of connection between themes, with values closer to 1 indicating stronger theme coordination. Network centralization measures the tendency of the network to converge on a single theme; lower values suggest a more balanced thematic structure.

Results showed that the network density across the three stages increased from 0.731 to 0.892, and then to 0.942, indicating a progressive enhancement in thematic coordination within sports policy networks. This growth suggests that the government maintained a clear understanding of thematic priorities, progressively focusing policy directions as the sports industry evolved. The network centralization values, at 0.282, 0.245, and 0.314 for each stage, indicate a balanced distribution of thematic hotspots, underscoring stability in thematic focus across stages.

(1) Policy evolution perspective

Changes in focus reflect an innovation-driven shift. For instance, as policies evolved from the “emerging and promotion period” to the “rapid development period,” traditional themes like “management”, “services”, and “sports facilities” declined, while themes like “innovation” and “brand” gained prominence. In the next transition, from the “rapid development period” to the “mature and slowing period”, themes such as “mechanisms”, “resources”, and “operations” became more central, with a continued emphasis on “innovation”. This shift highlights a move from traditional management models to those driven by innova-



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tion, aligning policy priorities toward brand-building and structural optimization in the sports industry.

(2) Policy hotspot development perspective

In the "emerging and promotion period", policy hotspots were more general, featuring terms like "service industry", "national", and "comprehensive", which reflected macro-level planning. During the "rapid development period", hotspots became more focused, with themes such as "the public", "venues", "football", and "professionalism," indicating a shift to a more refined top-level design model. In the "mature and slowing period", the blend of broad and specific themes such as "integration", "outdoor sports", "national fitness", "platforms", and "ice and snow" demonstrated a mature policy direction. These themes not only captured core industry elements but also aligned with broader social and economic goals, reflecting a more comprehensive and nuanced approach to sports policy.

(3) Policy tool perspective

With shifts in the policy environment, an increasing array of market-driven mechanisms and incentive-based tools have been incorporated into policy. Tax incentives, financial subsidies, and industrial funds have become more prominent, especially in the "Mature and Slowing Period." Additionally, tools such as public-private partnerships (PPP), sports industry park initiatives, and sports event copyright protections have gained traction, optimizing resource allocation and enhancing policy effectiveness.

(4) Policy entity perspective

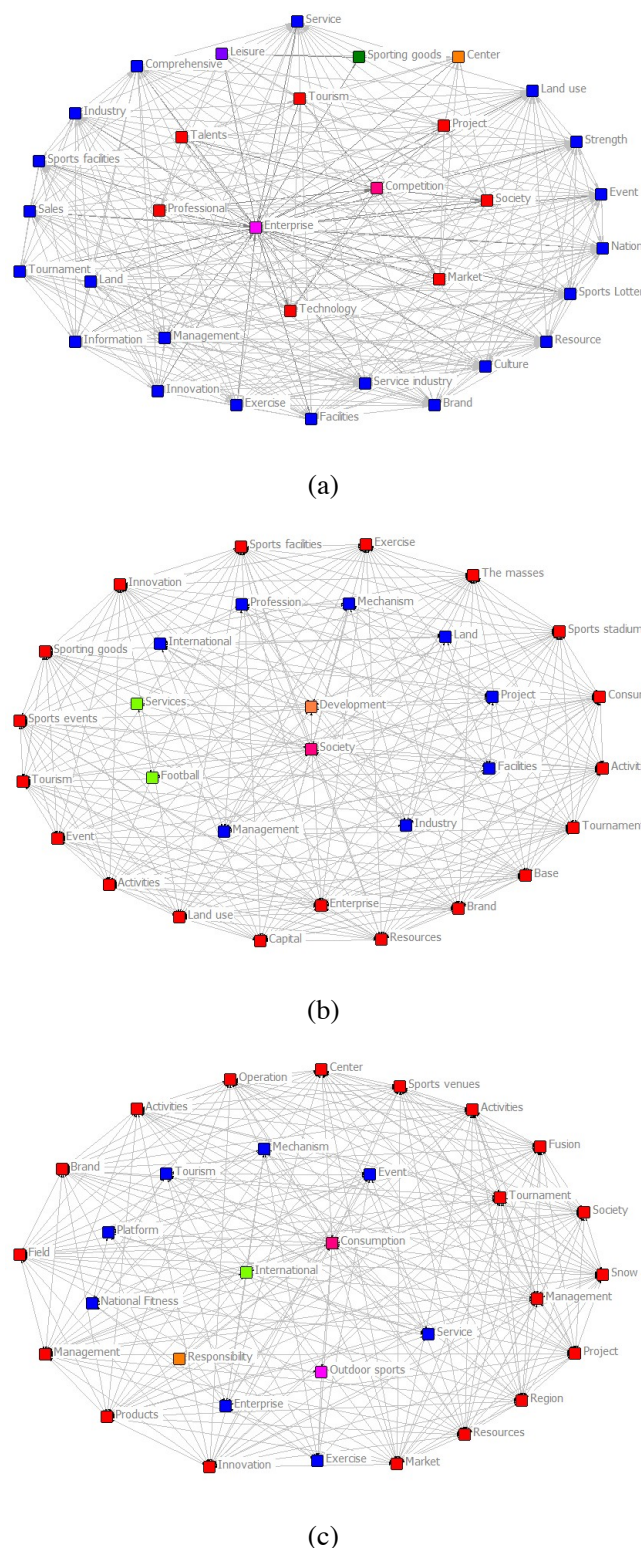
Policy formulation has grown more collaborative, with contributions from a diverse array of entities. As the government, market, and society now share key roles in driving industry growth, a collaborative governance model has emerged, reflecting a trend toward multi-departmental cooperation in sports industry policy development.

3.2.2. Analysis of the stage-wise evolution of sports industry policies

The clustering of topics from the LDA model, combined with social network analysis, reveals that the evolution of sports industry policies follows multiple developmental paths rather than a single linear trajectory. These paths encompass five key aspects: sports industry planning, tax and finance, market and resource development, service optimization and government duties, and industry innovation and upgrading (Figure 6).

(1) Sports industry planning

Three paths, labeled "A1—B3—C2", "A1—B3—C3", and "A1—B4—C3", define the trajectory of sports industry planning. Initial efforts center on scaling and standardizing sports industries to build a robust foundation. As the industry develops, policy emphasis shifts toward constructing a sports service system, enhancing collaborative mechanisms, and fostering cross-sector integration to support industry transformation and upgrading. In the "Mature and Slowing Period," policies focus on building a national fit-



(a) is the network of emerging and promotion period; (b) is the network of rapid development period; (c) is the network of maturity and slowdown period.

Figure 5 | Co-occurrence network of sports industry policy theme

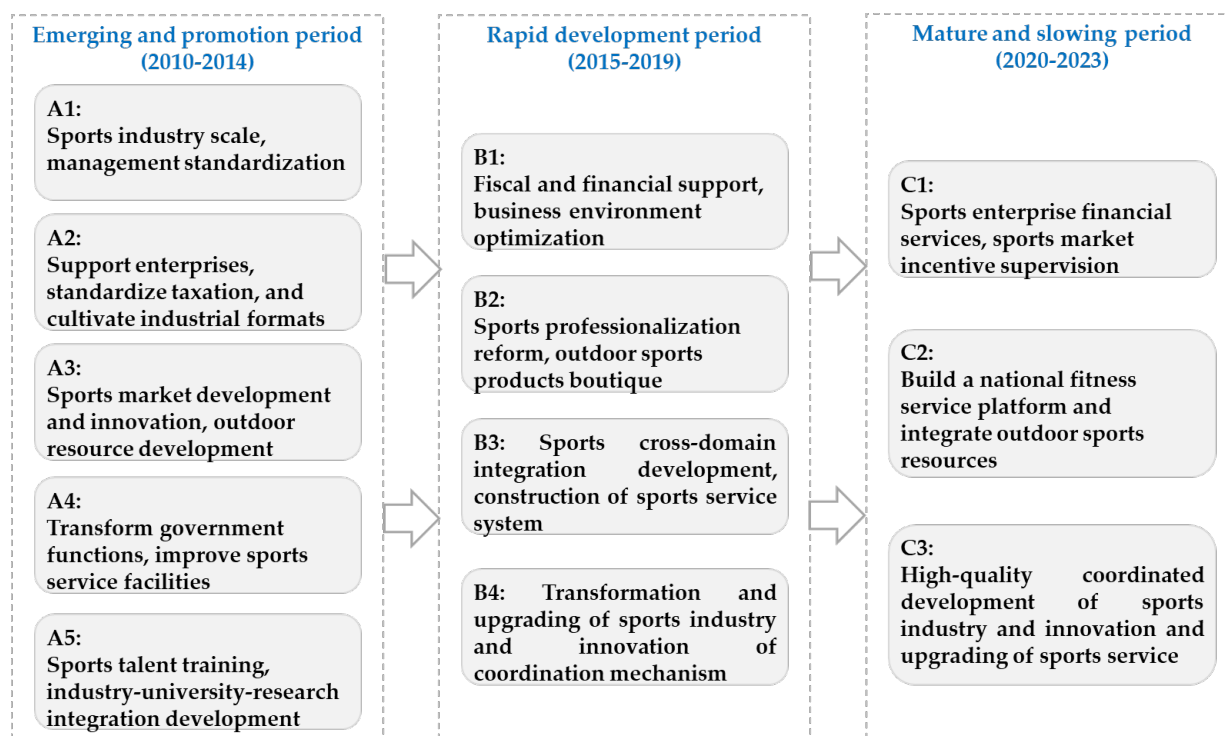


Figure 6 | Staged evolution of sports industry policy

ness service platform and promoting high-quality development, fostering innovation within the sports service system. Overall, these changes reflect a strategic alignment with new productive forces, emphasizing technology, efficiency, and quality as key elements of sports industry planning to adapt to market dynamics and evolving social demands.

(2) Sports tax and finance

One distinct path, “A2—B1—C1”, characterizes the evolution of tax and finance policies for the sports industry. During the "Initiation and Promotion Period," policies support sports enterprises through tax incentives and regulatory measures aimed at stimulating growth in sports sectors. In the "Rapid Development Period," policy efforts increase financial and tax support to bolster the business environment and stimulate market activity. As the industry matures, policies pivot toward enhancing financial services for sports enterprises, providing tailored financial solutions, and reinforcing market incentives and regulatory mechanisms to ensure sustainable development.

(3) Sports market and resource development

The path “A3—B2—C2” encapsulates sports market evolution. Early-stage policies focus on market expansion and outdoor resource development, laying the groundwork for a supportive sports market environment. As the market matures, policies emphasize professionalization reforms and the development of high-end outdoor sports products to boost international competitiveness. In the maturity phase, the focus shifts to building a national fitness plat-

form, integrating outdoor sports resources, and achieving high-quality growth to meet public demand.

(4) Sports service optimization and government responsibilities

Two pathways, “A4—B3—C2” and “A4—B3—C3”, describe the evolution in sports service optimization and government roles. Initially, policies emphasize government function transformation, sports service innovation, and facility improvements. As service provision expands, policies encourage cross-sector integration, enhancing sports services to meet increasing public demand. This evolution prioritizes developing a cohesive national fitness platform and integrating outdoor sports resources. High-quality collaborative development and service upgrades have improved production efficiency, demonstrating the positive social impact of streamlined government operations.

(5) Sports industry innovation and upgrading

The path “A5—B4—C3” captures the innovation and upgrading trajectory in sports industry policies. Initial efforts focus on talent cultivation and integrating industry, academia, and research to lay a foundational knowledge base for the sports sector. Subsequently, policies prioritize industry transformation, upgrading mechanisms, and collaborative innovation, propelling the sports industry into rapid growth. Currently, policies emphasize high-quality collaborative development and ongoing innovation in sports services, advancing the industry’s adaptability to contemporary demands and policy guidelines. This path highlights the shift from traditional industry models to approaches that are more intelligent, personalized, and eco-

friendly, injecting new vitality into social and economic progress.

3.3. Discussion

As a strategic emerging sector under China's "14th Five-Year Plan", the sports industry's development urgently requires enhanced policy effectiveness. The impact of industry policies varies significantly by timeframe, location, and context. To strengthen the efficacy of sports industry policies and better align them with the sector's practical needs in the new era, this study recommends refining policies in three key areas: policy direction, policy substance, and policy execution.

(1) Clarify policy planning directions and promote the equalized development of the sports industry

With increasingly consolidated themes in sports industry policies, both central and local policy-makers should focus on refining policy planning to ensure alignment with the sector's actual developmental needs. Promoting equity in sports industry development requires addressing the uneven distribution of sports resources across regions. Optimizing policy layouts should target resource allocation to underdeveloped regions, fostering balanced growth across urban and rural areas. Additionally, policy efforts should emphasize internal balance within the sports industry, supporting the coordinated development of various sports sectors to create a diverse, multi-layered growth structure.

(2) Deepen policy content and foster new drivers in the sports industry

Policy-making departments should enhance their understanding of trends within the sports industry to grasp core themes and essential policy components, ensuring policies remain forward-thinking and relevant. Cultivating new productive forces requires a strong focus on integrating technology with the sports industry. Policy support should encourage sports enterprises to increase technological R&D investments, promoting the sector's evolution toward intelligent, personalized, and environmentally sustainable practices. Emphasizing innovation and upgrading in the industry, policy initiatives should also encourage independent innovation, enabling enterprises to develop core competencies with proprietary intellectual property rights and supporting the high-quality development of the sports industry.

(3) Optimize policy execution mechanisms and standardize the sports industry

To ensure effective policy implementation, policy-making bodies should enhance policy execution mechanisms, bolstering monitoring and evaluation processes. Establishing a comprehensive execution assessment system will facilitate the timely identification and correction of implementation issues, increasing policy effectiveness. Additionally, greater inter-departmental coordination is necessary to harmonize sports industry policies with related

policies, enhancing overall policy coherence. To advance the standardization of the sports industry, policy-makers should refine industry standards, guiding enterprises to deliver products and services according to these standards. Furthermore, active participation in international standards development will strengthen China's sports industry's global competitiveness and influence.

4. Conclusion

The high-quality development of sports work relies heavily on the formulation, promulgation, and effective implementation of robust sports policies. This study employs the LDA model to mine topics from sports industry policy texts and utilizes social network analysis to explore the evolutionary trends of the themes within these texts, aiming to uncover the focal points and developmental characteristics of China's sports policies in the new era. The findings reveal that: (1) From the perspective of sports industry policy themes, the number of themes has gradually decreased, but their content has become more concentrated, indicating that sports policy formulation and execution have become more precise and specialized; (2) The policy focus has shifted from traditional management to innovation-driven development, with attention transitioning from infrastructure improvement to brand development and mechanism optimization; (3) The evolution of sports industry policies follows multiple non-linear paths, combining various routes, including sports industry planning, sports tax and finance, sports market and resource development, sports service optimization and government responsibility, as well as sports industry innovation and upgrading. These characteristics align with the overall requirements for the high-quality development of China's sports industry and offer recommendations for future policy formulation, such as clarifying policy planning directions, promoting the equalization of sports industry development, deeply exploring policy connotations to cultivate new forms of productive capacity in the sports industry, and optimizing policy execution mechanisms to guide the standardization process of the sports industry.

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Conflict of Interest

The authors declare no conflict of interest.

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